

Study on Chinese Stove Culture from the Perspective of Cultural Memory

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Abstract: *Background:* The ancient Chinese culture of farming and cooking is gradually dying as a result of the development of modern science and technology. In the long process of human history, traditional stoves have gradually withdrawn from the historical stage. The modifications and disappearance of linked objects and ancient people's ideas and beliefs in traditional cookware led to great changes in the new historical environment. *Objectives:* To make a systematic analysis of the cooking utensils with the stove as the object, sort out the cultural elements, and try to explain the creative intention, functional aesthetics, social and cultural value contained in them. *Methods:* Through interdisciplinary research methods, we comprehensively understood the historical evolution, cultural connotation and manifestation of cooking art of cooktop, and sorted out the relationship, innovation and development of traditional Chinese culture. *Results:* A comprehensive analysis was made on the results of stove culture research, in order to provide valuable references and suggestions for the study of cookware culture. *Conclusion:* There are several objective factors that will affect the design ideas and concepts of cookware. These are the progress of society, the development of science and technology, the change of life style, as well as the change of social moral standards and people's values, etc. The cookware designs will continue to develop as the industry moves toward multi-functionality.

Keywords: Stove culture, Traditional creation, Social culture, Cultural Memory

1. Introduction

1.1 Research Background

In traditional Chinese culture, it is believed that "food is the life of the people." As an important living instrument for human survival, the emergence and development of the stove reflect the improvement of human living standards and is an important symbol of the scientific and technological progress of human society. "The Five Elements of the Book of Han", says that "the stove is the root of birth and raising", and it plays a significant role in people's lives as well as one of the important cultural carriers of China's farming society (Shan, 2022). With the development of society and the improvement of people's living standards, culinary art has gradually become one of the embodiments of people's pursuit of high-quality life. The evolution and development of the cooktop as an important tool for cooking is closely related to the process of human civilization (Lu, 2020). This study aims to deeply explore the historical evolution, cultural connotation and significance of cooktop in modern life. Furthermore, it examines the embodiment of cooking art in cooktop, as well as the relationship between traditional Chinese culture and cooking. The intention of this research is to have a deeper understanding of the status and role of the stove in human history and culture

and to provide useful inspiration and reference for the development and innovation of modern kitchens.

1.2 Research Purpose

This paper examines the historical evolution, cultural connotation, and the embodiment of culinary art in cooktops, and the relationship between cooktops and traditional Chinese culture. Furthermore, it discusses the influence and innovation of modern science and technology on cooktops and the development trend in future kitchens. The results of these studies are analyzed comprehensively in order to provide valuable references and suggestions for future research.

1.3 Research Objective

The objectives of this study mainly include the following aspects: 1) Combining the history and culture of cooktop: Systematically combining the historical evolution process of cooktop, revealing its important position in Chinese farming civilization, and how cooktop became an important carrier of traditional culture. 2) The relationship between cooktop and traditional Chinese culture: Study how cooktop reflects ancient Chinese philosophical thoughts, moral concepts, living customs, etc., as well as the status and role of cooktop in traditional culture. 3) Innovation and development of cooktops: Discuss the influence of modern technology on cooktop design, analyze the innovative application of cooktops in modern kitchens, and the development trend of cooktops in future kitchens.

1.4 Research Methods

This study adopts an interdisciplinary research method and comprehensively applies the theories and methods of history, culturology, art, sociology, design and other related disciplines to conduct a comprehensive and in-depth study on the historical evolution, cultural implication, relationship with Chinese traditional culture, innovation and development.

2. Literature Review

In terms of the research of cookware ontology, Chen Yantang's "Human Fireworks - Cookware" starts from the analysis of the original pottery cookware, classifies the stages of the ancient cookware, and combs out the development outline. Zhang Jingming's History of the Development of Chinese Eating Utensils, from the direction of food anthropology, describes the basic forms of cooking utensils in the past dynasties with the time axis as the core. Wang Hu et al. demonstrated the "design of traditional artifacts" by case analysis, broke through the object-based research methods and research systems of archaeology and cultural relics protection with a new idea, and opened a new perspective for the study of traditional creations. Wang Qiang's Research on the Evolution of Cookware Design in Ancient China systematically combs the historical evolution and design level of cookware. In his book Food in Chinese Culture, Chinese-American scholar Zhang Guangzhi believes that the characteristics of Chinese food culture include concepts and beliefs related to the ecological environment, cooking methods, food, and systematically analyzes "food and people", and "environment and society". In his book "Living with Things", anthropologist Daniel Miller explores how people conduct social life in the kitchen through the consumption of objects, emphasizing the existence of sociality. Literature data statistics show that there is more literature related to the study of ancient cookware archaeology, but due to the limitation of disciplinary research on regional cultural attributes and the lack of communication and discussion across researchers, in-depth research needs to be conducted on the

connection between objects and people, objects and history. Generally, it is an incomplete summary of one or several aspects, without comprehensive and overall research and analysis. Stovetop culture involves the integration of research of archaeology, sociology, folklore, design, and other disciplines.

3. Evolution and Cultural Connotation of the Stove

3.1 Historical Evolution of the Stove

As the core facility of the cooking place, the evolution of the stove not only reflects the progress of human civilization but also reflects people's continuous pursuit of culinary art and culture. From the ancient human bonfire to the gas stove in the modern kitchen, the cooktop has undergone great changes in form, function, and material.

In ancient times, humans started lighting bonfires in caves to keep warm and drive away wild animals. With the development of agriculture, people began to build houses, and cooktops gradually evolved into dedicated cooking facilities (Li, 2014). According to archaeological findings, the stove in the Shang and Zhou dynasties already had a basic prototype, and the pottery placed on the stove was used for cooking rice, stewed meat, and other cooking methods. The cooktops of this period were mostly brick structures, round or square in shape, and the cooktop door was located on one side of the cooktop to facilitate the addition of fuel and the cleaning of ash (Liu, 2023).

With the passage of time, the form and function of the stove gradually diversified. In the Qin and Han dynasties, the stove began to be separated from the fire pond and became an independent cooking facility. The design of the stove is also more scientific and reasonable, and the chimney and exhaust port appear, effectively solving the problem of smoke diffusion (Zhang, 2023). At the same time, people began to place a variety of cooking utensils and spices on the stove, making the cooking process more convenient and faster. The cooktops of this period were mostly brick or adobe structures, but also made of wood (Zhang et al., 2017).

In the Tang and Song dynasties, with the development of the economy and the growth of population, people's demand for cooking increased continuously. The design of cooktops is also more refined and diversified, and there are cooktops specially used for different cooking methods such as steaming, boiling, and frying (Su, 2020). At the same time, the material of the stove has also changed, and there has been a stove with iron, copper and other metals as the main material (Na et al., 2018). The cooktop of this period not only had a practical function but also became a kind of decoration and art.

After entering modern society, with the progress of science and technology and the change in people's lifestyles, the form and function of the stove are also constantly being updated. The emergence of new cooking equipment such as gas stoves and induction stoves, has made cooking more efficient and convenient. The historical evolution of the stove reflects the development of human society and the progress of civilization. From the initial humble fire to the modern high-tech kitchen equipment, the stove has played an important role in human life, becoming an important tool for cooking. At the same time, people's requirements for the kitchen environment and sanitary conditions are becoming higher and higher, and the design of the stove is constantly developing in the direction of humanization, intelligence and environmental protection (Yu, 2023).

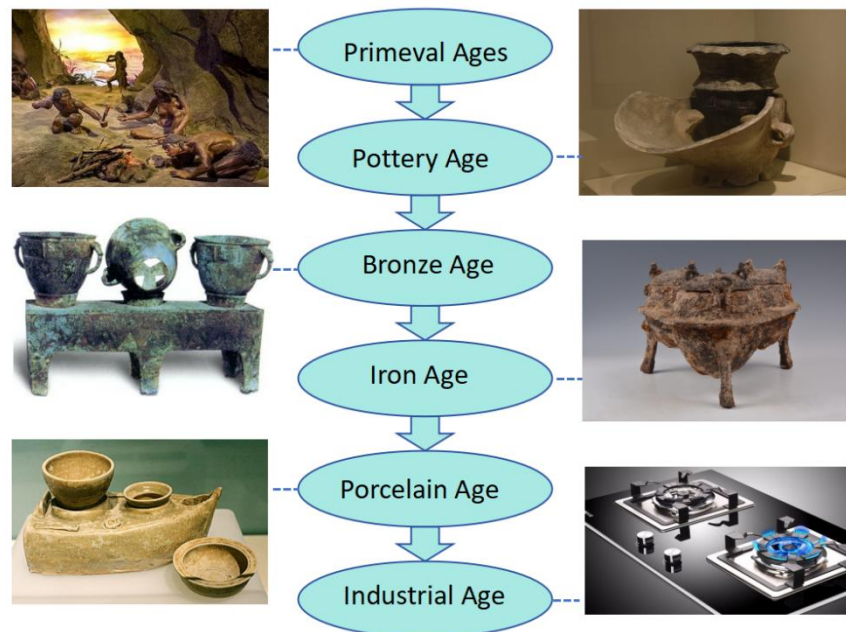


Figure 1: The historical evolution of the stove

3.2 Cultural Connotation of the Stove

The stove serves as a symbol of cooking places and plays an important role in traditional Chinese culture. It is not only a necessity for family life but also an important carrier for inheriting Chinese food culture. In the long historical process, the stove has evolved with the development of society and gradually integrated into a rich cultural connotation (Zheng, 2011).

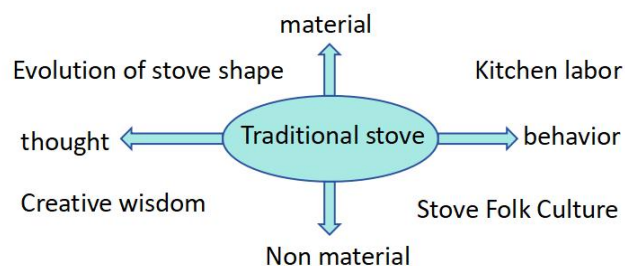


Figure 2: Cultural spatial structure matrix of the stove

In ancient times, the stove was not only a place for cooking but also an important place for family members to exchange emotions. In traditional Chinese families, members sit around the stove and share stories and emotions while cooking delicious food. This custom reflects the importance of family concepts in traditional Chinese culture (Geng, 2020).

Cooktops have special significance in Chinese traditional folk culture. In many places, during important festivals such as the Spring Festival, auspicious New Year pictures or couplets will be posted on the stove to pray for family peace and good harvests. In addition, in some traditional wedding customs, newlyweds need to heat a pot of hot water together in front of the stove, which symbolizes family happiness (Wang, 2017).

Cooktops are also reflected in traditional Chinese philosophy. The construction and layout of the cooktop often follow the philosophical principles of Yin-yang and the five elements, such as the position of the cooktop to avoid facing the door or window to avoid feng shui conflicts. This philosophy is fully reflected in the layout and design of the cooktop, which also reflects the unique Chinese understanding of nature and the universe. The stove is not only a practical cooking tool, but also a symbol of family emotions, folk culture and philosophical thoughts(Wang, 2016). Whether in family life or social and cultural inheritance, the stove will continue to play its unique role.

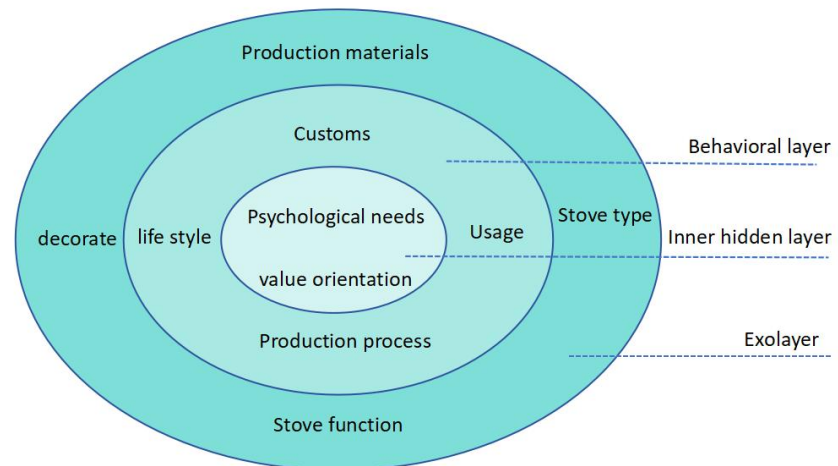


Figure 3: Research content of kitchen culture

3.3 The Significance of Cooktops in Modern Life

In modern life, the stove is not only a cooking tool but also carries multiple meanings, such as family life, healthy eating, and green environmental protection. With the acceleration of the pace of life, the function of the family kitchen has gradually changed, and the cooktop as the core equipment of the kitchen, its design, function, and safety have attracted more and more attention. The design of modern cooktops is more humanized and intelligent, such as intelligent temperature control, regular reminders, etc., which provides great convenience for housewives. According to statistics, the market share of smart cooktops has increased year by year, and more and more families tend to choose smart kitchen equipment. Stovetops also play an important role in healthy eating. Modern people pay more and more attention to a healthy diet. There are stove designs that can retain the nutritional content of the food and regulate the cooking temperature and time, thus providing people with more healthy food. The stove is also a representative of green environmental protection. Modern cooktops use a variety of energy-saving technologies, such as high thermal efficiency, waste gas treatment, etc., which can effectively reduce energy consumption and reduce environmental pollution. At the same time, with the implementation of garbage classification, the kitchen waste generated by the stove has also been reasonably treated and reused. In short, the stove has multiple functions in modern life. It is not only essential for family life but also an important guarantee for a healthy diet and protection of the environment.

4. Stove and Traditional Chinese Culture

4.1 The Relationship Between Chinese Traditional Food Culture and Cooktop

There is a close relationship between Chinese traditional food culture and cooktop. Cooktops have historically evolved from simplicity to complexity, from practicality to artistry, which complements the development of traditional Chinese food culture (Zhao, 2022). In traditional Chinese families, the stove is not only a tool for cooking but also a

symbol of family life, carrying emotional exchange between family members and the cultural value of family inheritance. In the cooking process, the stove is not only a place for food processing but also an important carrier for inheriting and carrying forward Chinese food culture. Through the stove, people transform various ingredients into delicious food, integrating traditional culture into their daily diet (Wang et al., 2016). For example, each of China's eight major cuisines has its own characteristics as well as variations in cooking techniques and use of cooktops. The cooktop design in Guangdong focuses on the control of ventilation and heat, while the cooktop in Sichuan is designed with a concentration of fire and rapid frying. These differences reflect the uniqueness and richness of food culture in different regions. In modern society, with the development of science and technology and the change in people's lifestyles, the stove is also constantly innovating and developing. The new cooktop design pays more attention to practicality and intelligence, such as the emergence of new cooktops that are integrated and intelligent, making the cooking process more convenient and efficient. At the same time, with people's interest in healthy eating, environment-friendly cooktop design has attracted increasing attention (Wu, 2022). In the future, the stove will continue to carry the essence of traditional Chinese food culture while adapting to meet modern demands.

4.2 The Status of Cooktops in Chinese Traditional Folk Culture











Cooktops play an important role in Chinese traditional folk culture. The stove is not only a necessary facility for family life but also an important carrier of Chinese traditional folk culture. In ancient times, the stove was an important place for sacrifice, and people would worship the kitchen god on the stove to pray for family peace and a good harvest. In traditional festivals such as the Spring Festival, the cooktop has become a symbol of family reunion. People will decorate the cooktop with cutouts of the door god and the word "fortune" in red paper, implying good luck and warding off evil spirits. In addition, the cooktop is also a display platform for traditional Chinese handicrafts, such as cooktop painting, cooktop carving, etc. These handicrafts not only beautify the cooktop but are also a precious heritage of traditional Chinese culture (Lu, 2023).

In modern society, with the development of science and technology and the change in people's lifestyles, the utilization rate of cooktops has gradually decreased. However, in China's rural areas, the stove is still an important part of family life. Here, the stove is not only a tool for cooking but also a platform for communication between family members. During the busy season, families will cook together and share the joy of harvest. Cooktop has a profound influence on Chinese traditional folk culture, which not only carries people's deep feelings for family and affection but also inherits the essence of Chinese traditional culture (Xu et al., 2020). In the future, with the revival of Chinese traditional culture and people's new understanding of traditional folk customs, the stove will continue to play an important role in people's lives.

Table 1: Cultural attributes and legends of the kitchen(some pictures are from the Internet)

| Cultural Attribute | Type | Legend |
|--------------------|------|--------|
|--------------------|------|--------|

| | | | |
|------------------|----------------------------|--|---|
| Physical culture | Cooktop form |  |  |
| | Cooktop decoration |  |  |
| | Cookware material |  |  |
| | Sacrificial kitchen Temple |  |  |
| | Stove technology |  |  |

| | | | |
|-------------------------|-----------------------------|--|--|
| | <p>Cooking technology</p> |  <p>Figure 14 : Cooking</p> |  <p>Figure 15 : For cooking</p> |
| | <p>Cooking ceremony</p> |  <p>Figure 16: Kitchen wall decoration</p> |  <p>Figure 17 : Cooking for a good lesson</p> |
| | <p>Cooking habit</p> |  <p>Figure 18 : Painting of the Han Dynasty</p> |  <p>Figure 19: Kitchen wall decoration</p> |
| | <p>Sacrificial ceremony</p> |  <p>Figure 20: Ancient Chinese sacrificial stove map</p> |  <p>Figure 21: Folk sacrificial stove</p> |
| <p>Behavior culture</p> | <p>Funeral custom</p> |  <p>Figure 22 : Pottery stove ware</p> |  <p>Figure 23 : Pottery stove 2</p> |

| | | | |
|--------------------------|----------------------------|---|---|
| | <p>Traditional skill</p> |  <p>Figure 24: Salt cooking stove</p> |  <p>Figure 25: Making a wine stove</p> |
| | <p>The Legend of Vesta</p> |  <p>Figure 26: The Kitchen God</p> |  <p>Figure 27: Kitchen God New Year picture</p> |
| | <p>Spiritual belief</p> |  <p>Figure 28: Production of folk Kitchen God New Year picture</p> |  <p>Figure 29: Folk belief in the Kitchen God</p> |
| | <p>Creative wisdom</p> |  <p>Figure 30 : Through the mountain stove</p> |  <p>Figure 31: Tiger shaped stove</p> |
| <p>Spiritual culture</p> | <p>Regional culture</p> |  <p>Figure 32 : Mongolian residents using cooking stoves</p> |  <p>Figure 33 : Boiling tea in a pond</p> |

| | | |
|--------------------|--|---|
| Family feelings |  |  |
| | Figure 34 : Daily cooking stove | Figure 35: Chinese catering culture |

he Embodiment of Stove in Traditional Chinese Philosophy

As a cooking place, the stove is not only a material and cultural phenomenon but also contains rich philosophical thoughts. In traditional Chinese philosophy, the stove is regarded as a symbol of family harmony and prosperity. The fire in the stove represents the warmth and vitality of family life, and the food cooked represents the cohesion and happiness of the family.

Confucius once said: "The best food is not tired of fine food". This sentence reveals the philosophical connotation of traditional Chinese food culture. On the stove, people use a variety of cooking techniques to transform ordinary ingredients into delicious dishes by carefully selecting and handling ingredients. This process reflects people's love for life and the spirit of pursuing perfection. At the same time, in the process of cooking, people also pay attention to harmony with nature and respect for the natural taste of ingredients, which echoes the Taoist philosophical concept of "harmony between heaven and man."

Cooktops also play an important role in Chinese traditional folk culture. For example, in the Spring Festival, an important traditional festival, the stove carries people's good wishes to pray for good luck. In the ceremony of offering sacrifices to the kitchen god, people hope to express their respect by offering food, praying for family peace and good harvests. This custom reflects people's deep feelings for the stove and good expectations for life.

In modern society, with the development of science and technology and the change in people's lifestyles, the form and function of the stove are also constantly evolving. However, the philosophical ideas contained in the stove are still inherited and carried forward in modern life. In home education, parents pass on their responsibility to the family and their love of life by teaching cooking skills and sharing cooking experiences. In community activities, shared kitchens and potluck also reflect people's pursuit of the spirit of unity and harmony represented by the stove.

4.4 The Kitchen God and the Kitchen

The kitchen god holds an important place in traditional Chinese culture and is regarded as a god who protects the family and brings good luck. The kitchen god is usually worshipped on the kitchen stove and is considered the patron saint of the family. In Chinese culture, people's worship and belief in the kitchen god is very common, and different regions have different names and images, but their basic functions and roles are roughly the same. The kitchen god is usually believed to be able to ensure that the family's food is abundant and the kitchen is safe and is also regarded as a symbol of family happiness and unity.

The belief in the kitchen god is a part of traditional Chinese culture, wherein, the worship of the kitchen god helps to maintain the continuation of cultural traditions and strengthen people's sense of identity with traditional values. People have passed on and promoted ancient values, such as respecting ancestors, valuing the family, and paying attention to social harmony. The purpose of worshipping the kitchen god is to pray for

family peace, happiness and harmony also to keep the family safe, avoid disasters and misfortunes. The worship of the kitchen god is a ritual that the family participates together, a process that promotes communication and interaction between family members and enhances unity and intimacy. By praying to the kitchen god together, families inherit and maintain the family's traditional culture.

Although many changes have taken place in modern society, the Vesta belief still maintains its influence and application to a certain extent. The tradition of worshipping the kitchen god is still maintained in some places and communities. Festivals such as the kitchen god temple fair and the kitchen god's birthday are still held in some places, and people celebrate and pass on this culture by participating in temple fairs and worshipping the kitchen god. The belief in the kitchen god still provides spiritual sustenance and emotional support for some people in modern society. People can express their wishes and emotions by worshipping the kitchen god and praying for family happiness, so as to obtain a kind of comfort and satisfaction.

5. Innovation and Development of Kitchen Culture

5.1 The Influence and Innovation of Modern Technology on Stove

The influence and innovation of modern science and technology on the stove have brought revolutionary changes. With the continuous development of science and technology, the design and function of cooktops are constantly being upgraded. For example, the smart stove can be remotely controlled through the Internet so that users can operate the stove anywhere, but also real-time monitoring of heat, temperature, and other data to ensure the safety and accuracy of cooking. In addition, modern technology has also brought new cooktop materials and processes, such as the application of stainless steel, ceramics, and other materials, making the cooktop more durable and easy to clean. At the same time, the new combustion technology also improves the combustion efficiency and environmental performance of the stove.

The innovation of modern science and technology on the stove is also reflected in the use of energy. For example, the new solar stove can use solar energy for cooking, it will not only save energy but also protect the environment. It can also be useful in remote areas and other places that do not have access to electricity. In addition, modern kitchens are gradually incorporating new cooktops, such as gas stoves and induction stoves which provide the advantages of high efficiency and environmental protection.

The influence and innovation of modern science and technology on the stove is an important trend in future kitchen development. Through in-depth research and discussion of the influence and innovation of modern science and technology on the stove, it can promote the continuous progress of the design and technology of the stove, and bring people a safer, healthier, and eco-friendly cooking way (Zhang et al., 2019).

Table 2: History of cooktop form and technology

| Stovetop form | Initial age | Energy type | Technological period |
|------------------|----------------------|----------------|-----------------------------------|
| Bonfire barbecue | Paleolithic age | Biomass energy | Natural fire |
| Hearth | Neolithic age | Biomass energy | Primitive agricultural technology |
| Stone stove | Neolithic age | Biomass energy | Primitive agricultural technology |
| Pottery stove | Neolithic age | Biomass energy | Pottery technique |
| Bronze stove | Xia and Shang period | Biomass energy | Metal smelting technology |

| | | | |
|----------------------------|--------------------------|----------------|-----------------------------|
| Iron kitchen range | Warring States period | Biomass energy | Metal smelting technology |
| Top and stove | Shang and Zhou Dynasties | Biomass energy | Agricultural technology |
| Porcelain stove | Qin and Han Dynasties | Biomass energy | Porcelain technology |
| Coal stove | Sui and Tang Dynasties | Biomass energy | Mining technology |
| Kerosene stove | Late 19th century | Fossil energy | Industrial technology |
| Canned liquefied gas stove | Mid-20th century | Fossil energy | Industrial technology |
| Pipeline gas stove | In the 1970s | Fossil energy | Industrial technology |
| Induction cooker | In the 1990s | Clean energy | Power electronic technology |
| Steaming oven | Late 20th century | Clean energy | Power electronic technology |
| Integrated stove | Early 21st century | Complex energy | Power electronic technology |

Development Trend of Cooktops in Modern Kitchens

In the following, the future product prediction analysis is carried out through relevant research. The questionnaire consists of three parts. The first part is basic information about the users. The second part is about the user's feelings about the use of the stove. The third part is the user's experience and expectations for kitchen products.

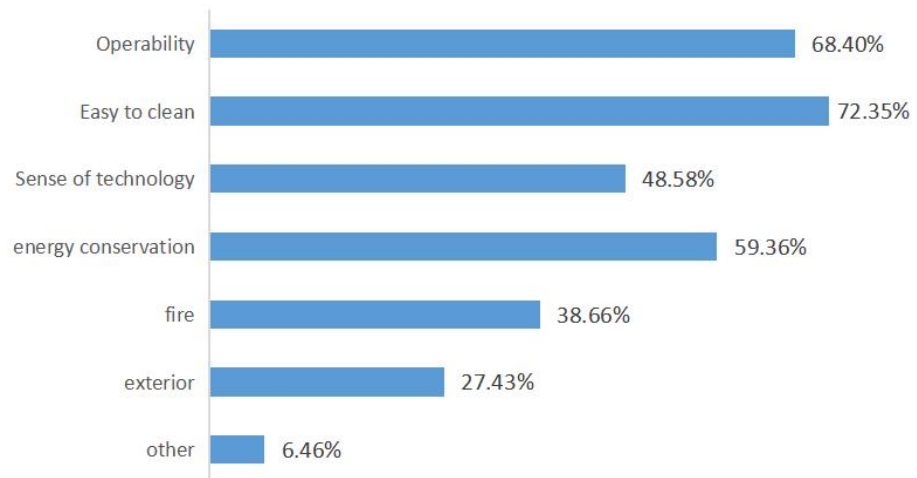


Figure 36: Survey data on consumers' attention to the use of existing cookstoves

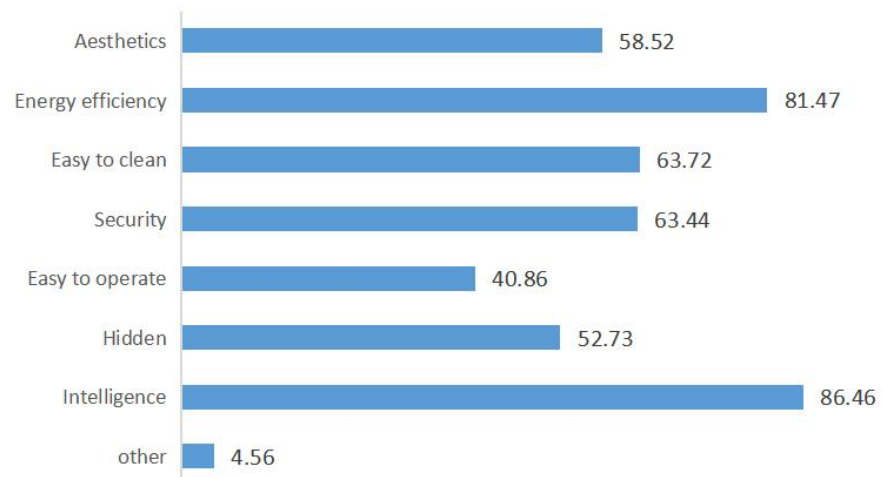


Figure 37: Survey data of consumers' expectation direction for future cookware product design

With the progress of science and technology and the change in people's lifestyles, the cooktop in the modern kitchen is also constantly developing and evolving. First of all, the design of modern cooktops pays more attention to practicality and humanization. For example, the height of modern cooktops can be adjusted so that they can be personalized according to different people's heights and cooking needs. In addition, modern cooktops are also equipped with a variety of intelligent functions, such as timers, temperature control, and automatic quenching, which greatly improve the convenience and safety of cooking.

Integrated design: For example, the linkage control between the stove and the oven, the steam box, the microwave oven, and other kitchen appliances can be achieved in one-button operation and intelligent control. This integration not only improves the efficiency of the kitchen but also makes the cooking process simpler and more convenient(Long et al., 2024).

Environmental protection and energy saving: For example, modern cooktops usually use energy-efficient heating methods such as gas stoves or induction stoves, and can also choose environmentally friendly gas or electricity supply methods. These measures not only help to reduce energy consumption but also help to reduce environmental pollutants.

Artistic aesthetic: Modern cooktop is both a practical kitchen tool and a work of art. Its design style and aesthetic value can reveal the owner's taste and personality.

Personalized design: The unique demands of user groups, including care for special groups, such as the elderly, disabled individuals, and low-income families must be taken into consideration(Chen et al., 2023). To ensure that they can also enjoy the fun and convenience of cooking, attention should be given to the height of the stove, the ease of use of the control panel, and even the choice of materials and the overall price control(Xiao, 2023) .

Table3: Comparison of household product attention of different income

| Focus | Low-income family | High-income family | Difference value |
|--------------------------------------|-------------------|--------------------|------------------|
| Product price | 73.2% | 32.5% | 40.7% |
| Service performance | 64.6% | 58.7% | 5.9% |
| Appearance | 30.5% | 43.7% | -13.2% |
| Service | 52.4% | 48.7% | 3.7% |
| Material | 52.7% | 62.4% | -9.7% |
| Feature | 35.8% | 43.6% | -7.8% |
| Quality | 72.3% | 62.5% | 9.8% |
| Brand | 28.7% | 46.5% | -17.8% |
| Environmental protection | 36.2% | 45.8% | -9.6% |
| Scientific and technological content | 10.4% | 29.6% | -19.2% |

te purpose of a cooktop is to meet the needs of the users. The development trend of the modern cooktop is the perfect combination of practicality, intelligence, environmental protection, art and humanity. The choice of modern cooktops is influenced by a number of factors such as price, practicality, after-sales service and user experience (Jin et al., 2023) . With the progress of science and technology and the development of society, it is believed that modern cooktops will continue to innovate and improve, bringing people a better cooking experience.

5.3 The Prospect of the Stove in the Future Life

The future of the stove is full of infinite possibilities as a result of the continuous development of science and technology. It is predicted that by 2030, the market share of smart cooktops will reach more than 40%, becoming one of the leading products in the kitchen electricity market. First of all, programmable cooktops will become the mainstream of future kitchens. Through the introduction of artificial intelligence technology, the stove will have automatic control of the heat, cooking time, cooking procedures and other functions. It will also be capable of making intelligent adjustments according to the food's ingredients and taste preferences. This will reduce the complexity and error of manual operation while greatly improving the efficiency and taste of cooking. Secondly, ecologically friendly cooktops will become an important trend in the future. With the improvement of people's awareness of environmental protection, the stove is one of the important equipment for energy consumption, its environmental performance has been a concern. In the future, the stove will use more clean energy, such as solar energy, wind energy, etc., to reduce the dependence on fossil fuels. At the same time, the cooktop will also use more efficient combustion technology and energy-saving materials to reduce energy consumption and emissions. In addition, customized cooktops will become an important direction of the future market. With the increase in consumer demand for personalization, the design and function of cooktops will also be more diversified. Consumers can choose the cooktop that suits them according to their tastes, cooking habits, home style, and other factors, and even customize personalized cooking programs and smart functions. The prospect of the stove in the future life is full of infinite possibilities. Smart cooktops, ecologically friendly cooktops, and customized cooktops will become an important trend in the future, bringing people a more convenient, efficient, and healthy cooking experience.

6. Conclusion

Chinese ancient design culture is an important part of Chinese traditional culture, which contains the creation of ideas and design thought, and modern design has an inherent, essential, and inevitable relationship. It is of great practical significance to study its design itself and to sort out and analyze its development and evolution from the perspective of culture.

As an important part of Chinese traditional culture, cooktop carries rich cultural connotations and philosophical thoughts. Since ancient times, the stove has been a place for cooking and also the center of family life, reflecting people's love for life and the pursuit of perfection. In modern society, with the development of science and technology and the change in people's lifestyles, the form and function of the stove are also constantly evolving. However, the philosophical ideas contained in the stove are still inherited and carried forward in modern life.

In the future, with the progress of science and technology and the development of society, the stove will continue to innovate and improve, bringing people a better cooking experience. Smart cooktops, ecologically friendly cooktops, and customized cooktops will become an important trend in the future, making the cooking process more convenient, efficient, and healthy. At the same time, as an important carrier of family culture, the stove will continue to inherit and carry forward the excellent traditions of Chinese culture and become a link between families and society.

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References

- Geng, A. (2020). *Research on pottery stoves unearthed from small and medium-sized tombs in Youji Area of Han Dynasty* [Dissertation, Minzu University of China]. <https://link.cnki.net/doi/10.27667/d.cnki.gzymu.2020.000475doi:10.27667/d.cnki.gzymu.2020.000475>
- Jin, X. Q., Xiao, F. M. & Zhang, J. Y. (2023). Research on kitchenware design based on User Journey Graph and TRIZ Theory. *Design*, (17), 107-111. doi: 10.20055 / j.carol carroll nki. 1003-0069.001155
- Li, C. (2014). A preliminary study on the site of Longshan era cookstove in Guanzhong area. *Huaxia Archaeology*, (02), 37 + 32-80 doi: 10.16143 / j.carol carroll nki. 1001-9928.2014.02.004
- Liu, B. B. (2023). *Han Dynasty pottery unearthed in Hexi Corridor* [Dissertation, Northwest Normal University]. <https://link.cnki.net/doi/10.27410/d.cnki.gxbfu.2023.001460doi:10.27410/d.cnki.gxbfu.2023.001460>
- Long, X. X., Ding, J. L., Chen, Y. F., Shen, J., Zheng, H. Y. & H, Y. Q. (2024). "Embedding" and "Breakthrough": The Way of innovation of kitchen utensils. *Cooperative Economy and Science and Technology*, (14), 103-106. doi: 10.13665 / j.carol carroll nki hzjyjkj. 2024.14.040
- Lu, J. Y. (2023). Study on Han Dynasty pottery stove patterns unearthed in Shanxi. *Beauty as Long*, (01), 26 to 45. doi: 10.19993 / j.carol carroll nki. 2095-865 - x. 2022.01.03
- Lu, Y. T. (2020). *Pottery stoves unearthed from small and medium-sized Han Tombs in Xi 'an Area* [Dissertation, Shanxi University]. <https://link.cnki.net/doi/10.27284/d.cnki.gsxixu.2020.001470doi:10.27284/d.cnki.gsxixu.2020.001470>
- Chen, L. L. & Pei, X. S. (2023). Research on student kitchenware Design based on Kansei Engineering. *Design*, (19), 104-107. The doi: 10.20055 / j.carol carroll nki. 1003-0069.001222
- Na, C. G., Wu, Z. J., Xiao, W. B., Zhang, Y. Q. & Liu, M. (2018). Study on the evolution of Chinese traditional family kitchen from the perspective of design history. *Hunan Packing*, (04), 46-50. doi: 10.19686 / j.carol carroll nki issn1671-4997.2018.04.011
- Shan, F. F. (2022). *Pottery stoves unearthed from Han Tombs in Shanxi* [Master Degree Thesis, Northwest Normal University]. <https://link.cnki.net/doi/10.27410/d.cnki.gxbfu.2022.000071doi:10.27410/d.cnki.gxbfu.2022.000071>
- Su, R. C. (2020). *Research on cookware models unearthed from Tang Tombs* [Dissertation, Zhengzhou University]. <https://link.cnki.net/doi/10.27466/d.cnki.gzzdu.2020.001553doi:10.27466/d.cnki.gzzdu.2020.001553>
- Wang, R. Q. (2017). The influence of Han folk cultural concepts on creation design -- A case study of Han Dynasty creation design unearthed in Xuzhou.(in Chinese). *Journal of Jiangsu Normal University*, (philosophy and social sciences edition) (01), 149-154. doi: 10.16095 / j.carol carroll nki cn32-1833 / c. 2017.01.020
- Wang, R. Q.(2016). Analysis of pottery stoves unearthed from Han tombs in Xi 'an area. *Cultural Relics in the Spring and Autumn*, (04), 58-64. doi: 10.13635 / j.carol carroll nki WWCQ. 2016.04.011
- Wang, S. W. & He, P. (2016). Research on kitchen appliances based on Chinese traditional cultural wisdom. *Packaging Engineering*, (18), 114-117. doi: 10.19554 / j.carol carroll nki. 1001-3563.2016.18.026
- Wu, J. C. (2022). Study on the evolution of stove space in residential buildings. *Urban Architecture*, (01), 163-167. doi: 10.19892 / j.carol carroll nki CSJZ. 2022.01.36

- Xiao, F. M. (2023). *Kitchenware Design based on Human Factor Engineering* [Dissertation, Harbin University of Science and Technology]. <https://link.cnki.net/doi/10.27063/d.cnki.ghlgu.2023.001320>doi:10.27063/d.cnki.ghlgu.2023.001320.
- Xu, L. & Rong Shuyun. (2020). Interactive isomorphism between intangible cultural heritage protection movement and folk tradition: A case study of Zao Wang New Year Painting in Yangjiabu. *Folklore Studies*, (02) 116-123. doi: 10.13370 / j.carol carroll nki fs. 2020.02.011
- Yu, Y. (2023). *Functional composite design of modern kitchen island* [Dissertation, Northeast Forestry University]. <https://link.cnki.net/doi/10.27009/d.cnki.gdblu.2023.000159>doi:10.27009/d.cnki.gdblu.2023.000159
- Zhang, H. (2024). Analysis of the inscriptions of "Sifu" gray pottery stove unearthed in Wushan. *Cultural Relics Appraisal and Appreciation*, (04), 17 to 21, doi: 10.20005 / j.carol carroll nki. Issn 1674-8697.2024.04.004
- Zhang, M. L. (2023). Study on Han Dynasty pottery stoves collected by Dongping County Museum. *Cultural Relics Appraisal and Appreciation*, (15), 10-13. Doi: 10.20005 / j.carol carroll nki. Issn 1674-8697.2023.15.003.
- Zhang, Y. & Yang, Y. Y. (2019). Comprehensive utilization of straw and utilization of clean stoves in Anyang City, Henan Province. *Agricultural Engineering Technology*, (05), 49 and 50. doi: 10.16815 / j.carol carroll nki. 11-5436 / s. 2019.05. 029
- Zhang, Y. Q., Wu, Z. J. & Xin, L. L. (2017). Evolution of traditional Chinese kitchen form. *Furniture*, (06), 1-5 + 21. doi: 10.16610 / j.carol carroll nki jiaju. 2017.06.001
- Zhao, H. P. (2022). *Dietary Contents seen in Han Tombs in Hebei*. [Master's Degree Thesis, Hebei University]. <https://link.cnki.net/doi/10.27103/d.cnki.ghebu.2022.000211>doi:10.27103/d.cnki.ghebu.2022.000211
- Zheng, X. Y. (2011). *Retrospection and Exploitation of traditional stove creation wisdom* (Master Degree Thesis, Nanjing University of the Arts). https://kns.cnki.net/kcms2/article/abstract?v=RsYUK1W_Gsgo1Nsjd83fpyV2zKyFTllbCXM1qvRujb2Ski15bx2e3YrJ2DrPIr2CCQgCVLIhG_ChG8pEdPv-cpzb9CbLD1VCxqzPIJn7TZbOduUHa1RWEPm_p8iKUizllR95FBYGTkr1d5wqX1Ee6dg=uniplatform=NZKPTlanguage=CHS

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